

12/4



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/740,040	12/20/2000	James M. Zombek	003636.0100	6195
7590	12/17/2004		EXAMINER	
John W. Ryan WILMER, CUTLER & PICKERING 2445 M. Street, N. W. Washington, DC 20037-1420			GOLD, AVI M	
			ART UNIT	PAPER NUMBER
			2157	
DATE MAILED: 12/17/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/740,040	ZOMBEK ET AL.	
	Examiner	Art Unit	
	Avi Gold	2157	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/20/00.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>5/10/02</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is responsive to the application filed December 20, 2000. Claims 1-47 are pending. Claims 1-47 represent a messaging method and apparatus including a protocol stack that corresponds substantially to an open system interconnection (OSI) model and incorporates a simple network transport layer.

Specification

1. The disclosure is objected to because of the following informalities: status of related applications needs to be updated. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 20 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. The term "about" in claim 20 is a relative term which renders the claim indefinite. The term "about" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-10, 15, and 17-47 are rejected under 35 U.S.C. 102(b) as being anticipated by Aether Technologies publication of "AIM.net Architecture Version 1.1".

Aether teaches the invention as claimed including AIM.net architecture concepts.

Regarding claim 1, Aether teaches a messaging system, comprising:

a client device having stored therein a client application, which is adapted to be executed by said client device (pg. 7, 2nd paragraph, Aether discloses a client application on a client device);

a server having stored therein a server application, which is adapted to be executed by said server (pg. 7, 2nd paragraph, Aether discloses a server application on a server device);

a plurality of wireless networks, each of which is adapted to (pg. 7, 2nd paragraph, Aether discloses communication across multiple wireless networks between each device):

communicate messages between said client device and said server (pg. 7, 2nd paragraph, Aether discloses communication across multiple wireless networks between each device); and

support one or more wireless network protocols (pg. 7, 2nd paragraph, Aether discloses communication across multiple wireless networks);
a protocol gateway encapsulating a fundamental network protocol, which underlies each of said one or more wireless network protocols and includes a protocol stack that corresponds substantially to an Open System Interconnection (OSI) model and incorporates a simple network transport layer (SNTL) (pg. 43, 1st paragraph, pg. 45, 2nd paragraph, Aether discloses an OSI including a SNTL used for communications over a wireless network); and

means for communicating a message between said client application and said server application, over a selected wireless network protocol through said protocol gateway, independent of said selected wireless network protocol (pg. 45, 2nd paragraph, Aether discloses mobile applications that can send and receive messages across multiple wireless networks without having knowledge of the communication implementation).

Regarding claim 2, Aether teaches the messaging system according to claim 1, wherein said SNTL maps to layer 4 of said OSI model (pg. 46, Aether discloses a Simple Network Transfer figure).

Regarding claim 3, Aether teaches the messaging system according to claim 1, wherein said protocol stack further comprises:

an application layer mapped to layer 7 of said OSI model;

a network layer mapped to layer 3 of said OSI model;
a data link layer mapped to layer 2 of said OSI model; and
a physical layer mapped to layer 1 of said OSI model (pg. 45, Aether discloses all layers, shown in figure 6-1 mobile transport protocol stack).

Regarding claim 4, Aether teaches the messaging system according to claim 3, wherein said application layer comprises means for providing an interface between a client application and said SNTL such that said client application is adapted to send and receive messages across said plurality of wireless networks without having any knowledge of a communication implementation (pg. 45, 2nd paragraph, Aether discloses an API layer sending and receiving messages).

Regarding claim 5, Aether teaches the messaging system according to claim 4, wherein said client application is selected from the group consisting of one or more e-mail applications, one or more file transfer applications, and a plurality of end user applications (pg. 45, 46).

Regarding claim 6, Aether teaches the messaging system according to claim 3, wherein said network layer comprises means for providing network protocol layer functionality and hiding the details of said functionality from said SNTL (pg. 45, 2nd paragraph).

Regarding claim 7, Aether teaches the messaging system according to claim 6, wherein said network layer comprises an Internet Protocol (IP) (pg. 45, Aether discloses the network layer with IP shown in the figure).

Regarding claim 8, Aether teaches the messaging system according to claim 3, wherein said data link layer and said physical layer are together adapted to comply with a public switch telephone network protocol (pg. 13, 2nd bullet, Aether discloses the use of ISP dialup for a protocol gateway).

Regarding claim 9, Aether teaches the messaging system according to claim 3, wherein said data link layer and said physical layer are together adapted to comply with a cellular digital packet data protocol (pg. 13, 2nd bullet, Aether discloses the use of CDPD for a protocol gateway).

Regarding claim 10, Aether teaches the messaging system according to claim 3, wherein said data link layer and said physical layer are together adapted to comply with a Mobitex protocol (pg. 13, 2nd bullet, pg. 49, 3rd paragraph, Aether discloses the use of Mobitex as a protocol gateway).

Regarding claim 15, Aether teaches the messaging system according to claim 3, wherein said data link layer and said physical layer are adapted to comply with said

selected wireless network protocol (pg. 45, Aether discloses the figure of the OSI showing the physical layer with wireless protocols).

Regarding claim 17, Aether teaches the messaging system according to claim 1, wherein said SNTL includes a connectionless UDP-like transport protocol having substantially all of the features and advantages of TCP (pg. 43, 1st paragraph, Aether discloses optimized data communication over wireless networks).

Regarding claim 18, Aether teaches the messaging system according to claim 17, wherein said features are selected from the group consisting of message segmentation, message segment reassembly, message retries, and message duplication (pg. 43, Aether discloses all features, underlined).

Regarding claim 19, Aether teaches the messaging system according to claim 17, wherein said SNTL includes a transport header having a preselected width (pg. 46, figure of segment header, Aether discloses a transport/segment header having a length of 31 bits).

Regarding claim 20, Aether teaches the messaging system according to claim 19, wherein said preselected width comprises about four to six bytes (pg. 46).

Regarding claim 21, Aether teaches the messaging system according to claim 19, comprises a single segment message header (pg. 46, 2nd paragraph, Aether discloses a maximum segment size).

Regarding claim 22, Aether teaches the messaging system according to claim 19, comprises a multiple segment message header (pg. 46, 2nd paragraph, Aether discloses multiple message segments).

Regarding claim 23, Aether teaches the messaging system according to claim 19, wherein said transport header further comprises:

- a first field adapted to indicate a version number of a segment header (pg. 47, Aether discloses a ver field);

- a second field adapted to indicate a message identification value, which is adapted to discard segment/message duplications and to match acknowledgments with messages (pg. 47, Aether discloses a message ID field);

- a third field adapted to indicate protocol information (pg. 47, Aether discloses a flag field);

- a fourth field adapted to indicate a total number of bytes contained in a message segment to be sent including said segment header (pg. 47, Aether discloses a total length field); and

- a fifth field adapted to indicate a number of each said message segment (pg. 47, Aether discloses a segment number field).

Regarding claim 24, Aether teaches the messaging system according to claim 23, wherein said first field comprises two bits (pg. 47, Aether discloses the ver field consisting of two bits).

Regarding claim 25, Aether teaches the messaging system according to claim 23, wherein said first field comprises bit 0 and bit 1 of a first word in said segment header (pg. 47, Aether discloses the ver field comprising bit 0 and 1 of a 1st word).

Regarding claim 26, Aether teaches the messaging system according to claim 23, wherein said first field comprises a value of from 0 to 3 (pg. 47, Aether discloses valid values of 0 through 3 for the ver field).

Regarding claim 27, Aether teaches the messaging system according to claim 23, wherein said second field comprises thirteen bits (pg. 47, Aether discloses the message ID field being 13 bits).

Regarding claim 28, Aether teaches the messaging system according to claim 23, wherein said second field comprises bits 2 through 14 of a first word in said segment header (pg. 47, Aether discloses the message ID field comprising bits 2 through 14 of the 1st word).

Regarding claim 29, Aether teaches the messaging system according to claim 23, wherein said second field comprises a value of from 0 to 8,192 (pg. 47, Aether discloses valid values of 0 through 8,192 for the message ID field).

Regarding claim 30, Aether teaches the messaging system according to claim 23, wherein said third field comprises five bits (pg. 47, Aether discloses the flag field consisting of 5 bits).

Regarding claim 31, Aether teaches the messaging system according to claim 23, wherein said third field comprises bits 15 through 19 of a first word in said segment header (pg. 47, Aether discloses the flag field comprising bits 15 through 19).

Regarding claim 32, Aether teaches the messaging system according to claim 23, wherein bit 19 of said third field comprises a value indicative of message segmentation (pg. 47, Aether discloses the flag field comprising a segmentation indicator).

Regarding claim 33, Aether teaches the messaging system according to claim 32, wherein bit 19 comprises a value of 0 where the message is not segmented (pg. 47, Aether discloses the flag field comprising bit 19 comprising a value of 0 where the message is not segmented).

Regarding claim 34, Aether teaches the messaging system according to claim 32, wherein bit 19 comprises a value of 1 where the message is segmented (pg. 47, Aether discloses the flag field comprising bit 19 comprising a value of 1 where the message is segmented).

Regarding claim 35, Aether teaches the messaging system according to claim 23, wherein bit 16 of said third field comprises a value indicative of a message type (pg. 47, Aether discloses the flag field comprising a message type bit).

Regarding claim 36, Aether teaches the messaging system according to claim 35, wherein bit 16 comprises a value of 0 where the message includes a positive acknowledgment (pg. 47, Aether discloses the flag field comprising bit 16 comprising a value of 0 where the message includes a positive acknowledgment).

Regarding claim 37, Aether teaches the messaging system according to claim 35, wherein bit 16 comprises a value of 1 where the message includes a negative acknowledgment (pg. 47, Aether discloses the flag field comprising bit 16 comprising a value of 1 where the message includes a negative acknowledgment).

Regarding claim 38, Aether teaches the messaging system according to claim 23, wherein bit 15 of said third field comprises a message indicator (pg. 47, Aether discloses the flag field comprising a message indicator).

Regarding claim 39, Aether teaches the messaging system according to claim 38, wherein bit 15 comprises a value of 0 where the message is an application message (pg. 47, Aether discloses the flag field comprising bit 15 comprising a value of 0 where the message is an application message).

Regarding claim 40, Aether teaches the messaging system according to claim 38, wherein bit 15 comprises a value of 1 where the message is a system message (pg. 47, Aether discloses the flag field comprising bit 15 comprising a value of 1 where the message is an AIM control message).

Regarding claim 41, Aether teaches the messaging system according to claim 23, wherein said fourth field comprises twelve bits (pg. 47, Aether discloses the total length field comprising 12 bits).

Regarding claim 42, Aether teaches the messaging system according to claim 41, wherein said fourth field comprises bits 20 through 31 of a second word in said segment header (pg. 47, Aether discloses the total length field comprising bits 20 through 31 of the 2nd word).

Regarding claim 43, Aether teaches the messaging system according to claim 42, wherein said fourth field comprises a value of from 4 to 4,096 (pg. 47, Aether discloses the total length field comprising valid values of 4 through 4,096).

Regarding claim 44, Aether teaches the messaging system according to claim 23, wherein said fifth field comprises eight bits (pg. 47, Aether discloses the segment number field consisting of 8 bits).

Regarding claim 45, Aether teaches the messaging system according to claim 44, wherein said fifth field comprises bits 0 through 7 of a third word in said segment header (pg. 47, Aether discloses the segment number field comprising bits 0 through 7 of the 3rd word).

Regarding claim 46, Aether teaches the messaging system according to claim 44, wherein said fifth field comprises a value of from 2 to 255 (pg. 47, Aether discloses the segment number field comprising valid values of 2 through 255).

Regarding claim 47, Aether teaches the messaging system according to claim 23, wherein said fifth field is adapted to re-order a plurality of message segments into a single complete message (pg. 47, Aether discloses the segment number field adapted to re-order message segments into a single complete message).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 11-14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aether further in view of Meyer et al., U.S. Patent No. 6,778,099.

Aether teaches the invention substantially as claimed including AIM.net architecture concepts.

As to claim 11, Aether teaches the method of claim 3.

Aether fails to teach the limitation further including wherein said data link layer and said physical layer are together adapted to comply with a RIM protocol.

However, Meyer teaches automatic equipment and systems for remote reading of utility meters via a wireless area network communications module (see abstract). Meyer teaches the use of a RIM protocol (col. 6, lines 17-20).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Aether in view of Meyer to use a RIM protocol. One would be motivated to do so because it allows for the use of more protocols to transfer data.

As to claim 12, Aether teaches the method of claim 3.

Aether fails to teach the limitation further including wherein said data link layer and said physical layer are together adapted to comply with an ARDIS protocol.

However, Meyer teaches the use of an ARDIS protocol (col. 6, lines 1-5).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Aether in view of Meyer to use an ARDIS protocol.

As to claim 13, Aether teaches the method of claim 3.

Aether fails to teach the limitation further including wherein said data link layer and said physical layer are adapted to comply with a GPRS protocol.

However, Meyer teaches the use of other packet wireless data networks and packets transmitted and received over a radio modem (col. 6, lines 1-5, col. 7, lines 21-26).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Aether in view of Meyer to use a GPRS protocol.

As to claim 14, Aether teaches the method of claim 3.

Aether fails to teach the limitation further including wherein said data link layer and said physical layer are adapted to comply with a GSM protocol.

However, Meyer teaches the use of a GSM protocol (col. 6, lines 1-5).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Aether in view of Meyer to use a GSM protocol.

As to claim 16, Aether teaches the method of claim 3.

Aether fails to teach the limitation further including an ARDIS protocol, a RIM protocol, a GPRS protocol, and a GSM protocol.

However, Meyer teaches the use of an ARDIS protocol, a RIM protocol, a GPRS protocol, and a GSM protocol (col. 6, lines 1-5, 17-20; col. 7, lines 21-26).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Aether in view of Meyer to use an ARDIS protocol, a RIM protocol, a GPRS protocol, and a GSM protocol.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Pat. No. 6,304,564 to Monin et al.

U.S. Pat. No. 6,718,384 to Linzy

U.S. Pat. No. 6,628,965 to LaRosa et al.

U.S. Pat. No. 6,721,779 to Maffeis

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Avi Gold whose telephone number is 571-272-4002.

The examiner can normally be reached on M-F 8:00-5:30 (1st Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on 571-272-4001. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Avi Gold
Patent Examiner
Art Unit 2157

AMG



**SALEH NAJJAR
PRIMARY EXAMINER**